



PUBLIC NOTICE

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THE FCC'S ADVISORY COMMITTEE FOR THE 1999/2000 WORLD RADIOCOMMUNICATION CONFERENCE PROPOSES ADDITIONAL PRELIMINARY VIEWS ON WRC-99 ISSUES

The WRC-99 Advisory Committee is assisting the Commission in the development of proposals for the 1999/2000 World Radiocommunication Conference (WRC-99). On May 22, 1998, at its third meeting, the Advisory Committee proposed further preliminary views on issues that are to be addressed at WRC-99*. In addition, the Advisory Committee approved several preliminary views developed by the National Telecommunications and Information Administration's (NTIA) Radio Conference Subcommittee (RCS). We request comments on these preliminary views.

The Advisory Committee's proposed further preliminary views concern: 1) an allocation to the Non-Geostationary Satellite Orbit (NGSO) Mobile-Satellite Service (MSS) downlinks at 405-406 MHz; 2) additional allocations to a navigational non-geostationary (NVNG) MSS in the 450-470 MHz band; and 3) ITU-R Recommendations that are incorporated by reference in the Radio Regulations. An overview and summary of the preliminary views that were proposed are provided in Sections I and II below.

The preliminary views provided by NTIA's RCS appear in Section III below and are reproduced as presented to the FCC by NTIA. The NTIA views address high density systems in the 31.8-33.4 GHz band, an allocation for the MSS in a portion of the 1555-1567 MHz frequency range, a second frequency for GPS in the 1559-1610 MHz band, the addition of a space-to-space direction to the radionavigation-satellite service allocations in the bands 1215-1260 MHz and 1559-1610 MHz, the allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive) and radio astronomy services, a world-wide allocation for earth exploration satellite (passive) and space research (passive) services in the band 18.6-18.8 GHz, and the addition of more channels for simplex use in the VHF maritime mobile service.

The complete text of the FCC and NTIA preliminary views is available in the FCC's International Reference Center, 2000 M Street, N.W., Room 102, Washington, D.C. (telephone: 202-418-

*Some previously-proposed preliminary views were presented in FCC Public Notice No. DA 98-842, released May 4, 1998.

1492) or by accessing the FCC's WRC-99 world wide web site at: <http://fcc.gov/wrc-99>. To comment on these preliminary views, please submit an original and one copy of your comment to the Chief, Planning & Negotiations Division, Federal Communications Commission, 2000 M Street, N.W., Suite 800, Washington, D.C. 20554. Comments should refer to specific preliminary views by document number. Parties preferring to e-mail their comments should address their comments to: wrc-99@fcc.gov. The deadline for comments on the proposed preliminary views is June 19, 1998.

The comments provided will be of assistance to the FCC in its upcoming consultations with the U.S. Department of State, the National Telecommunications and Information Administration, and other government agencies for developing and updating U.S. preliminary views. Once approved by agreement among these agencies of the U.S. Government, preliminary views may be used by U.S. delegations to stimulate discussion and feedback and to attempt to achieve common proposals with other countries on these issues. The proposed preliminary views set forth herein may evolve in the course of interagency discussions and therefore do not constitute a final U.S. Government position on any issue.

I. Preliminary Views of IWG-2 (Informal Working Group on NGSO Mobile-Satellite Service Below 1 GHz)

A. Preliminary View

WRC-99 Agenda Item 1.11: Resolutions 214, 219 and 728 (WRC-97) - *To consider constraints on existing allocations and additional allocations on a world-wide basis for the non-GSO/MSS below 1 GHz.* (WAC/024(22.05.98))

ISSUE: Allocation below 1 GHz to NGSO MSS downlinks at 405-406 MHz.

BACKGROUND: At WRC-97, the U.S., World Meteorological Organization (WMO), and other countries drafted Resolution 219 (WRC-97) calling for a study of the possible allocation of the 405-406 MHz band for MSS at WRC-99. The 401-406 MHz band is currently allocated to the Meteorological Aids Service. ITU-R studies are ongoing to determine the feasibility and cost of transitioning the Meteorological Aids Service out of the 405-406 MHz band.

PRELIMINARY VIEW: U.S. should pursue an allocation in the NVNG MSS in the 405-406 MHz band pending the results of ITU-R studies. A possible transition plan and a date by which MetAids could migrate from the 405-406 MHz and NVNG MSS operations could commence are yet to be established. In order to protect SARSAT (406-406.1 MHz) and Radio Astronomy (406.1-410 MHz) bands from NVNG MSS out-of-band emissions, a 30 to 50 kHz guard band near the upper band edge may be required.

B. Preliminary View

WRC-99 Agenda Item 1.11: Resolutions 214 and 219 (WRC-97) - *To consider constraints on existing allocations and additional allocations on a world-wide basis for the non-GSO/MSS below 1 GHz.* (WAC/025(22.05.98))

ISSUE: Additional Allocations to NVNG MSS in the 450-470 MHz band.

BACKGROUND: The position of the incumbents in this band is that the NVNG MSS industry did not adequately demonstrate that sharing in the 450-470 MHz band is possible. It is the view of the NVNG MSS industry that the provision of land mobile systems' technical parameters and participation of incumbent users is required to demonstrate that sharing is feasible.

PRELIMINARY VIEW: The feasibility of MSS and land mobile sharing in the 450-470 MHz band requires further study. Based on the results of studies being conducted, the U.S. will determine whether to pursue MSS allocations in this band.

II. Preliminary View of IWG-9 (Informal Working Group on Other Matters, Including Regulatory and Procedural Matters)

A. Preliminary View

WRC-99 Agenda Item 2: Resolution 27 (WRC-97) - To examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations which have been communicated by the 1999 Radiocommunication Assembly, in accordance with Resolution 28 (WRC-95); and decide whether or not to update the corresponding references in the Radio Regulations. (WAC/026(22.05.98))

BACKGROUND: A number of provisions of the Radio Regulations make reference to the ITU-R Recommendations. As the ITU-R Recommendations are updated, it is necessary to review the Radio Regulations to see if these references should be continued.

PRELIMINARY VIEW: The U.S. has examined every reference to an ITU-R Recommendation within the Radio Regulations. Our preliminary view is that, in each case, action is contemplated which will conclude the effort, under way since the Voluntary Group of Experts, to use incorporation by reference wherever it makes sense.

III. Preliminary Views of NTIA's Radio Conference Subcommittee (WAC/027(22.05.98))

A. Preliminary View

WRC-99 Agenda Item 1.4: *to consider issues concerning allocations and regulatory aspects related to Resolutions 126 (WRC-97) (COM5-11), 726 (WRC-97) (COM5-12), 128 (WRC-97) (COM5-16), 129 (WRC-97) (COM5-17), 133 (WRC-97) (COM5-28) and 134 (WRC-97) (COM5-29);*

ISSUE: Allocation of the Fixed Service in the Band 31.8-33.4 GHz and Identification of the Band for High Density Systems

BACKGROUND: WRC-97 added a fixed service allocation to the band 31.8-33.4 GHz and identified it via RR S5.547, as available for use by high-density systems. Since no studies had been performed within the ITU-R to verify the compatibility of such systems with the operations of other allocated services, WRC-97 choose to delay until

2001 implementation of the allocation via RR S5.547A and Resolution 126 (COM 5-11.) The band is currently used worldwide for airborne radionavigation systems critical to safety and operations related to ground mapping, weather avoidance and calibration of aircraft on-board navigation systems for accurate aerial delivery in adverse weather. Furthermore, at specific sites around the world the 31.8-32.3 GHz portion of the band is used for reception of space research signals from deep space that carries data essential to the function and experiments of deep space probes.

PRELIMINARY VIEW: Given the availability of higher and lower frequencies for high density fixed systems, the characteristics of the radionavigation equipment, and the fact that this is the only radionavigation allocation in this portion of the spectrum, WRC-99 should require that technical studies demonstrate that such fixed systems can operate compatibly with existing airborne radionavigation systems before implementing a fixed service allocation. These studies must account for the mobile requirements of aeronautical radionavigation and large line-of-sight distances associated with these operations. Furthermore, the studies must determine methods to be used to ensure protection of space research sites (deep space.)

B. Preliminary View

WRC-99 Agenda Item 1.9: *take into account the results of ITU-R studies in evaluating the feasibility of an allocation in the space-to-Earth direction to the mobile-satellite service in a portion of the 1 559 - 1 567 MHz frequency range, in response to Resolutions **213** and **220 (WRC-97)** (COM5-31);*

ISSUE: Mobile-Satellite Service (MSS) uplink at 1675-1710 MHz

BACKGROUND: At WARC-92, a Region 2 allocation for the Mobile-Satellite Service was made at 1670-1710 MHz for uplinks. At that time a corresponding downlink was allocated at 1492-1525 MHz. However, no MSS use of these allocations have been made. At WRC-97, proposals were submitted to use the 1559-1667 MHz band as a downlink to pair with a portion of the 1670-1710 MHz band for uplink. This proposal was not adopted by WRC-97.

The U.S. has an extensive network of Meteorological Aids (MetAids) operations operating between 1670 and 1683 MHz. MSS uplinks are not compatible with these operations. Under domestic law the 1670-1675 MHz portion is to be vacated by MetAids putting increased importance on maintaining the 1675-1683 MHz portion for MetAids. Sharing between MSS uplinks and Meteorological-Satellite (MetSat) receivers operating above 1683 MHz may be possible under some circumstances.

The U.S. is working in WP8D and SG7 and elsewhere to document MetAids and MetSat operations in this band.

PRELIMINARY VIEW: There is a need to continue to have spectrum available and to protect the operation of the Met Aids and MetSat services. Possibly there could be some use of this band under a sharing arrangement. However, at this time, no suitable

downlink spectrum has been identified.

C. Preliminary View

WRC-99 Agenda Item 1.15.1: *to consider new allocations to the radionavigation-satellite service (RNSS) in the range from 1 to 6 GHz required to support developments;*

ISSUE: New allocation for second civilian frequency for GPS

BACKGROUND: The addition of a second frequency will greatly enhance the accuracy, reliability and robustness of civilian GPS receivers by enabling them to make more effective corrections for the distorting effects of the ionosphere on the signals from space. GPS has always provided signals on two frequencies for military users for this purpose. A second civil signal allows receivers to measure the time of arrival for two signals that have passed through the ionosphere and correct for the distortion introduced by passage from space to earth. An improved location calculation will allow safety-critical users requiring dynamic, reliable capability to use GPS, improve the overall accuracy of the system for the average user, and allow the high-accuracy users (surveying, geodesy, weather forecasters, and others) to determine their data in a faster, more reliable manner. In addition, the protected civil signal will allow the safety-critical users to have a backup signal in the event of disruption of the current civil signal, the GPS SPS. The new signals will be available to all civil users worldwide. Interest has been expressed via ICAO on the use of a second GPS civil signal in conjunction with the Japanese MSAS and the European EGNOS augmentation programs. The new signals are intended to be added to the GPS Block IIF satellites. An important consideration for aeronautical users is having the protected signal operate under a frequency allocation to the Aeronautical Radionavigation Service (ARNS), which would also include the possibility of terrestrial augmentation systems.

1227.6 MHz has been selected for the addition of new (second) civil capability to add to the Standard Positioning Service now operating on 1575 MHz. A third civil signal, operating on a frequency to be selected, will also be added to the GPS satellites. A decision on the frequency is to be made in August of 1998. Further, a decision on which of these two new signals will be proposed to become the safety-of-life service signal will also be made in August of 1998.

PRELIMINARY VIEW: It is appropriate to seek an allocation of a second RNSS frequency on a worldwide basis that can be used in conjunction with the RNSS allocation at 1559-1610 MHz for a variety of applications including aeronautical sole-means of navigation, so that a capability can be available by 2005.

D. Preliminary View

WRC-99 Agenda Item 1.15.2: *to consider the addition of the space-to-space direction to the radionavigation-satellite service allocations in the bands 1 215 - 1 260 MHz and 1 559 - 1 610 MHz;*

ISSUE: Recognition in the allocation table of space-based RNSS receivers in the bands

1559-1610 MHz and 1215-1260 MHz

BACKGROUND: GPS receivers operating with both L1 and L2 signals are used for accurately positioning commercial and scientific spacecraft. However, the present allocation for RNSS does not afford protection for these signals. The U.S. is performing analysis to show that the GPS spaceborne receivers can operate in the current electromagnetic environment. Results of these studies show that interfering satellites would have to be located very close to the spaceborne GPS receiver for there to be a problem. Spurious emissions from MSS systems were also considered. However, the interference from an in-band MSS downlink such as has been proposed in the 1559-1567 MHz band has not been analyzed.

PRELIMINARY VIEW: It is appropriate to seek space-to-space as a directional indicator in the RNSS service in the 1559-1610 and 1215-1260 MHz bands. The U.S. will work in WP8D, SG7 and the Space Frequency Coordination Group to study compatibility with currently allocated services in these bands. The U.S. will also work in WP8D to demonstrate that use of GPS receivers on-board spacecraft will not impose additional constraints on services operating in adjacent bands.

E. Preliminary View

WRC-99 Agenda Item 1.16: *to consider allocation of frequency bands above 71 GHz to the earth exploration-satellite (passive) and radio astronomy services, taking into account Resolution 723 (WRC-97) (COM5-1);*

ISSUE: Passive Allocations above 71 GHz

BACKGROUND: The passive services, (e.g. for remote sensing, radio astronomy, and meteorological observations) have substantial interests in the above 71 GHz frequency range as well, up to the 275 GHz limit of the allocation table and beyond. The active services are interested in using this spectrum, e.g. for applications involving high data rate transmission and because propagation characteristics allow extensive frequency reuse. Few active systems, particularly satellites have been implemented to date above 71 GHz.

NASA's Mission to Planet Earth is dedicated to understanding the total Earth system and the effects of natural and human-induced changes in the global environment. Passive remote sensing is key to the study of the Earth system. Other U.S. government agencies also utilize passive sensors to study and predict the weather and for other key scientific purposes. Various missions already employ passive sensing instruments at frequencies above 71 GHz and many more are planned.

During the next two decades the U.S intends to upgrade and continue operating several millimeter wave telescopes that currently work above 71 GHz. Congress also provided funds for construction of the MilliMeter Array (MMA), which is expected to become operational by approximately 2005. Several other millimeter wave telescopes may be built in this time frame, and their access to the spectrum must be ensured.

PRELIMINARY VIEW: WRC-99 offers an opportunity to provide additional allocations to satisfy passive service needs, to protect existing allocations for future use, and to re-organize the allocations above 71 GHz as needed so that spectrum can be successfully shared between passive and active services in that range.

The interests of other services allocated in this portion of the spectrum must also be safeguarded and satisfied as well. The United States is considering options for band reallocations that are similar to what was done at 50.2-71 GHz at WRC-97. The band re-allocation will meet the needs of all the radio services involved.

F. Preliminary View

WRC-99 Agenda Item 1.17: *to consider possible worldwide allocation for the earth exploration-satellite (passive) and space research (passive) services in the band 18.6 - 18.8 GHz, taking into account the results of the ITU-R studies;*

ISSUE: Earth exploration-satellite (passive) service allocation in the band 18.6 - 18.8 GHz

BACKGROUND: Passive spaceborne sensors provide environmental data on soil moisture, water salinity, ocean temperature, rain, snow, ice, sea state, and oil spills. A set of frequency bands is essential for these measurements because simultaneous measurements at several frequencies are needed to isolate any single effect since the energy emitted at any one frequency is determined by several overlapping effects. The band between 18.6 and 18.8 GHz is one component in this set, without which these environmental data could not be obtained. At present, the allocation for the Earth exploration-satellite (passive) service is on a primary basis in Region 2, but on a secondary basis in Regions 1 and 3.

At WRC-97, a joint CITELE proposal was presented to upgrade the allocations to the Earth exploration-satellite (passive) and space research (passive) services to primary. This proposal also included a pfd limit of -101 dBW/m² in a reference bandwidth of 200 MHz on the fixed-satellite service. A limit of -3 dBW on the power in the band that is delivered to an antenna of a fixed service station with a -10 dBi backlobe gain was also included in the proposal. At the conference, agreement could not be reached on the appropriate limits on the fixed and fixed-satellite services to enable passive sensors to perform their mission (and the operation of fixed and fixed-satellite service systems).

Studies are currently being conducted to determine if the limits given in the proposal at WRC-97 can be modified to allow the fixed and fixed-satellite services to use more power. These studies will be completed and limits will be identified in the fall.

PRELIMINARY VIEW: The allocation for the Earth exploration-satellite (passive) service in Regions 1 and 3 must be elevated to world-wide primary status if the long-term ability to obtain environmental data with passive spaceborne sensors is to be preserved. Compatibility between the passive sensors and the active radio services

requires adoption of constraints on the parameters of the fixed and fixed-satellite service systems that use the band. Studies are currently being conducted to further assess the sharing situation and determine suitable limits. The U.S. supports an upgrade to EES (passive) in Regions 1 and 3 to world-wide primary in the band 18.6 - 18.8 GHz with appropriate world-wide constraints on all allocated services to ensure the long term sharing and use of the band.

G. Preliminary View

WRC-99 Agenda Item 1.18: *consider the use of new digital technology for the maritime mobile service in the band 156 - 174 MHz and consequential revision of Appendix **S18/18**, taking into account Resolution **342 (WRC-97)** (COM4-3);*

ISSUE: Appendix S18

BACKGROUND: Appendix **S18** of the ITU Radio Regulations defines the channels of the maritime mobile service. These channels support a variety of functions including “Distress, Safety and Calling: public correspondence, inter-ship, ship/shore/ship, port operations and ship movement. The maritime mobile frequency band, 156-174 MHz, (effectively 156-162 MHz in the U.S. due to previous domestic regulatory actions), supports maritime communications worldwide.

With the rapidly increasing use of the VHF maritime mobile band, particularly for data communications, increased congestion and mutual interference is being experienced which, among others, has resulted in unacceptable degradation of the distress and safety related function for which this band is utilized. Unless action is taken this situation will only worsen as usage continue to grow.

At WRC-97, the United States/CITEL proposed simplex use of duplex channels for Appendix S18. This was approved for a few specific public correspondence channels only, channels 18 and 82-86. Note M to Appendix **S18** must be modified to add more channels for simplex use. This will allow for more efficient use of Appendix **S18** channels and provide flexibility for administrations to meet their immediate requirements, while maintaining compatibility with the vast number of ships and pleasure craft now using the band in accordance with Appendix **S18**.

PRELIMINARY VIEW: Modify Specific Note M to Appendix S18 to include additional channels for simplex use of duplex channels.

For additional information, please contact Damon C. Ladson or Chuck Magnuson at 418-2150.